

## REMARKS

Applicants have reviewed the contents of the Office Action mailed October 23, 2003. Reconsideration is respectfully requested in view of the foregoing amendments and the comments set forth below.

By this Amendment, independent claim 31 and withdrawn claim 50 are amended to incorporate amendments discussed with the Examiner on October 15, 2003. Accordingly, claims 31-34 and 36-62 are pending in the instant application with claims 37-52, 54, 56, 57 and 59-61 being withdrawn from further consideration as being drawn to a non-elected species.

Applicants thank the Examiner for the courtesies extended to their representative during the telephonic interview on October 15, 2003. During that interview, the objection to claim 31 was discussed and it was agreed that the phrase - - to be - - should be inserted before "inserted" in line 11. In addition, withdrawn claim 50 was discussed and amendments proposed to clarify the two orientations claimed. Accordingly, it is believed that the objection to claim 31 has been overcome.

Claim 55 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons set forth at the top of page 4 of the Action. It is believed that claim 55 is definite as written. Claim 55 states that the clamping sleeve has 1) an oval cross section in the relaxed state, 2) a deformed state (shape) as compared to the relaxed state in the pre-tensioned state, and 3) an oval cross section in the partially relaxed state. That is, claim 55 describes the cross sectional shape of the clamping sleeve. These shapes are shown in Figs. 22-24 of the elected species Fig. 25. As explained on page 18, lines 20-31 of the originally filed specification, Fig. 22 shows the clamping sleeve in a relaxed state, while Fig. 23 shows the clamping sleeve in the pre-tensioned state (achieved by applying an external force) that is

a deformed shape as compared to the shape of the relaxed state (not-tensioned state). For example, the pre-tensioned state may have a circular or smaller major axis oval cross section. After insertion of a constructive element 2 into the tensioning element, the external force of the pre-tensioned state is reduced. The holding force occurs in the partially relaxed state, as shown in Fig. 24, where the minor (vertical) axis of the clamping sleeve is smaller than that of the pre-tensioned state shown in Fig. 23. That is, in the partially relaxed state, the clamping sleeve is trying to reach the relaxed state shown in Fig. 22, but, the clamping sleeve cannot because a constructive element 2 does not allow the clamping sleeve to return the relaxed state of Fig. 22. It is this feature that enables the claimed connecting element to mechanically connect constructive elements. In view of the foregoing explanation, it is believed that claim 55 is fully definite under 35 U.S.C. § 112, second paragraph.

Claims 31, 32, 34, 36, 53, 58 and 62 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5, 197,720 to Renz, et al (hereinafter referred to as “Renz”) as explained in the paragraph spanning pages 2-6 of the Action. This rejection is respectfully traversed.

Renz is directed to an expansion element 7 which is inserted into a workpiece 5 and then expands inside the workpiece in order to hold workpiece 5 about expansion element 7. According to column 5, lines 47-54 of Renz, the expansion element 7 “consists of a shape-memory alloy whose alloy composition is chosen such that the **austenitic state...of the shape-memory alloy occurs at a temperature at which the clamping tool is to be used**” (Emphasis Provided). That is, Renz teaches a temperature-induced austenitic state contrary to the claimed invention which recites “said tensioning element being in a **stress-induced**

**martensitic state** to produce the holding force” (Emphasis Provided). Thus, Renz clearly teaches the opposite of the martensitic state when it states that “wide expansion without appreciable stress increase” is achieved in the austenitic state. See column 5, lines 47-54 of Renz. Accordingly, Renz not only fails to teach a connecting element for mechanically connecting constructive elements, but teaches against producing the claimed holding force in the stress-induced martensitic state as claimed by Applicants.

As stated in the Action, the “adapted to” language is not a positive limitation but only requires the ability to so perform. It is submitted that Renz is not capable of applying a holding force in an elastically expanded state **onto** a constructive element that is to be connected. To the contrary, the expansion element 7 of Renz exerts an expansion force against workpiece 5 after the expansion element is inserted into the workpiece. Independent claim 31 states that the “constructive element to be connected is to be inserted in the axial direction of said tensioning element.” Thus, it is respectfully submitted that Renz does not have the ability to perform in the manner claimed by Applicants. That is, a constructive element to be connected is to be inserted into the tensioning element and the tensioning element is adapted to apply a holding force in an elastically expanded state onto the constructive element that is to be connected. It is unclear how Renz can have the ability to perform the claimed invention in this manner. Accordingly, Renz also fails to disclose elements that enable it to perform the claimed invention as set forth in Applicants’ claim 31.

Renz further teaches that an external force is applied by screwing (Figs. 4 and 5) or hydraulically (Fig. 6) in order to expand the expansion element when it has been inserted into the workpiece. Thus, Renz is concerned with inserting an expansion element into a workpiece and then expanding the expansion element, or, inserting a pin 10 or mandrel 19’ into the expansion element and applying an external force to expand the expansion element.

This is not the claimed invention. Nowhere does Renz state that the tension element is in a stress-induced martensitic state; instead Renz states that the wide expansion occurs without appreciable stress increase. Accordingly, Renz cannot anticipate the claimed invention.

Claim 33 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Renz in view of the publication entitled “TI-NI Shape Memory Alloys” by Duering, et al (hereinafter referred to as “Duering”) as set forth in the middle of page 7 of the Action. This rejection is respectfully traversed.

While the above publication by Duering mentions that “alloys with 49.0 to 50.7 at.% titanium are commercially common, the Duering publication does not disclose, teach or even suggest a connecting element for mechanically connecting constructive elements as claimed by Applicants. Nowhere does the Duering publication teach or suggest a connecting element comprising an elastically deformable tensioning element which applies a holding force in an elastically expanded state onto a constructive element that is to be connected. Nor does the Duering publication suggest that the commercially available titanium-nickel can be used in a tensioning element where a constructive element to be connected is inserted in the axial direction of a tensioning element, which is in a stress-induced martensitic state to produce the holding force. As stated above, Renz teaches an expansion element employing an opposite principle of the claimed stress-induced martensitic and thus teaches against the claimed invention. Accordingly, the Duering publication cannot render the claimed invention obvious.

Applicants acknowledge the indication, spanning pages 7 and 8 of the Action that claim 55 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As stated above, independent claim 31 is believed to be patentable over the prior art of record. It is respectfully submitted that rejoinder of claims 37-52, 54, 56, 57 and 59-61 is appropriate, if the Examiner agrees with Applicants' position that claims 31-34, 36, 53, 55, 58 and 62 are allowable over the prior art of record.

In view of the foregoing Applicants request the issuance of the Notice of Allowability rejoining all of the species of the invention and indicating that claims 31-34 and 36-62 are allowed over the prior art of record.

Should the Examiner believe that a conference would advance the prosecution of this application, the Examiner is requested to telephone the undersigned to arrange such a conference.

Respectfully submitted,



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